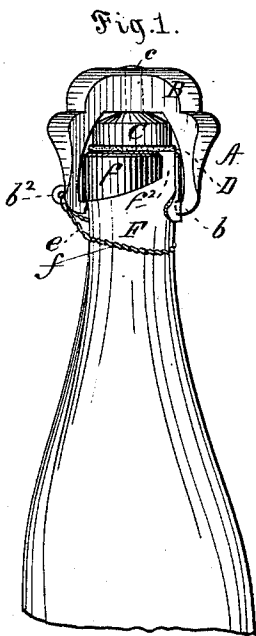
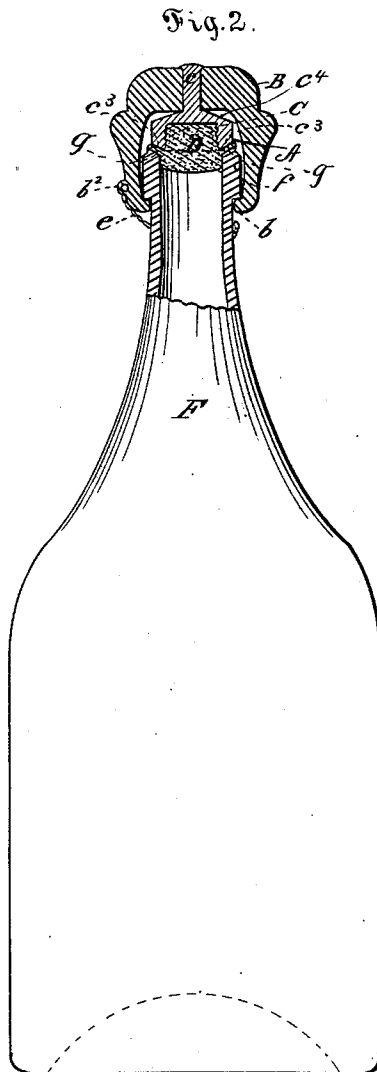
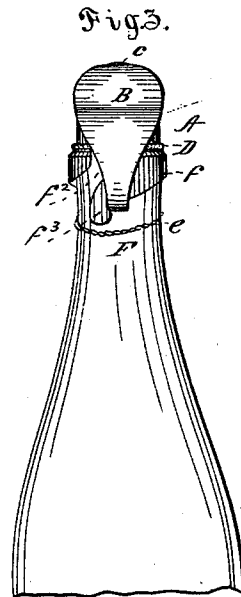
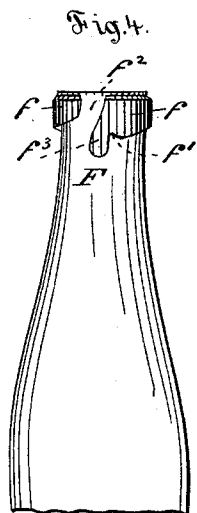
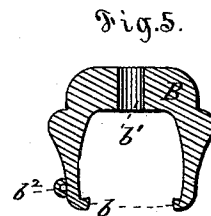
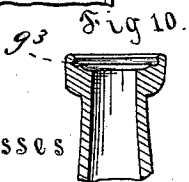
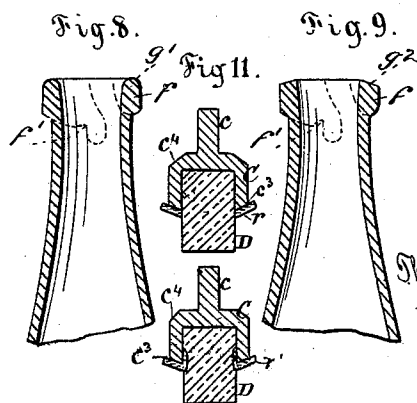
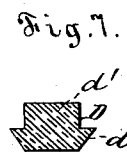


T. MALCOLMSON.
Device for Bottle-Stopper.

No. 222,593.

Patented Dec. 16, 1879.



Witnesses
Ludwig Mayer
Michael Ulrich

Inventor.
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 atty

UNITED STATES PATENT OFFICE

THOMAS MALCOLMSON, OF OIL CITY, PENNSYLVANIA, ASSIGNOR TO
LUDWIG MAYER, OF SAME PLACE.

IMPROVEMENT IN DEVICES FOR BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. 222,593, dated December 16, 1879; application filed October 4, 1879.

To all whom it may concern:

Be it known that I, THOMAS MALCOLMSON, of Oil City, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improved devices in bottle-stoppers, and mainly to the means employed in securing the cork or stopper to its cap, and the latter to its fastener.

Heretofore bottle-stoppers have been made with a hollow cap to contain the material of which the stopper proper is composed, india-rubber, cork, and other elastic and yielding substances being used for the stopper-body. The stopper-cap has been pivoted to a yoke, and the latter made to engage with inclined ways formed upon the neck of the bottle.

The object of my invention is to provide means by which the stopper is securely united to its cap, and to reduce the friction of said cap against its fastening-yoke by forming the stopper-cap with a conical top, and also with a conical under side where it presses upon the stopper, beveling said under side of the cap at the same angle, or nearly so, as the upper edge of the bottle.

My invention consists in a bottle-stopper having a central plug, (preferably made of chemically-prepared cork-wood or of fibrous substances,) and formed with a conical rim wider than the body of the plug, in combination with a stopper-cap having a conical top and a central pin to secure it to a cap-fastening yoke made of malleable cast metal.

It consists, also, in a stopper-cap provided with an internal screw-thread to engage with the stopper, a central pin projecting above said cap, and beveled edges upon the top and bottom thereof.

It consists, also, in the combination of a stopper-cap having a projecting pivot-pin, a plug or stopper, and an elastic gasket bent over

the internal lower edge of the stopper-cap and between the latter and the stopper-plug.

In the drawings, Figure 1 is a front elevation of my improved bottle-stopper secured to a bottle. Fig. 2 is a front view of a bottle with the bottle-neck, the stopper, stopper-cap, and fastener in section. Fig. 3 is an elevation, showing a side view of the stopper-fastener. Fig. 4 is a side view of a bottle with the fastener removed. Fig. 5 represents the yoke or fastener in section. Fig. 6 represents the stopper-cap in section. Fig. 7 represents the stopper in section, showing its form before being placed in a bottle. Fig. 8 represents, in section, a bottle-mouth having a semicircular edge. Fig. 9 represents, in section, a bottle-mouth having its edge beveled outwardly. Fig. 10 represents, in section, a bottle-mouth with the cork-seat provided with an annular groove. Fig. 11 represents, in section, internally-smooth caps for holding the cork or stopper body by means of rubber gaskets.

The bottle-stopper is represented by the letter A, and is provided with a yoke, B, which has at its lowermost portion hooks *b*, for engaging under the collar projecting from the bottle-neck. The upper portion of said yoke has a central hole, *b'*, for the reception of a neck or pin, *c*, formed on and extending above a stopper (or cork) cap, C. The top of said cap is trunco-conical or inclined downwardly at *c'*, to prevent friction with the under side of the yoke when revolving the latter in securing the stopper within a bottle-mouth. The lower edge, *c''*, of said cap is beveled, to form an effective seat for the stopper.

The interior chamber, *c'*, of the cap C is provided with a screw-thread, *c''*, to engage with the stopper-plug and hold it securely, and a rubber gasket, *r* or *r'*, can be used between the edge of the stopper-cap and the stopper-plug, to protect the latter at that point, and the resilience of the rubber will also materially help in retaining the stopper-plug within its cap, so that the latter may even be made internally smooth, as shown in Fig. 11, (the gasket *r'* being preferred for that purpose,) the gasket *r* being capable of the same function when united by adhesive cement to the cap C.

The stopper-plug D has a central upper por-

tion, d' , to secure it in its cap, and a projecting collar, made trunco-conical or beveled under at d , as shown in Fig. 7, which represents its normal form before being placed in a bottle-neck. After being compressed in a bottle-mouth its shape becomes changed, having then the appearance shown in Fig. 2.

The corks are chemically prepared, to prevent the bottled liquids from passing through the pores of the wood, though its elasticity is not impaired by the treatment.

The yoke is provided with an ear, b^2 , having an eye to receive a suitable fastening, e , to retain the stopper connected to the bottle-neck when it is removed from its mouth.

The bottle-neck F has two semi-spiral collars, f , each having an indentation, f' , at its lower end, to receive and retain the hooks of the yoke, and a stop, f^3 , to keep the latter from passing beyond said indentation f' . Vertical grooves f^2 are made in opposite sides of the bottle-collar, to allow the hooks of the yoke to pass under said collar and engage with the inclined ways formed thereunder.

The mouth-edge of the bottle is beveled inwardly at g , to form a seat for the cork packing, and the latter is compressed against the correspondingly-inclined edge e^3 on the cap C, in turning the yoke, until the hooks thereof rest in the depressions f' .

When the cork D and its cap are placed on the bottle-mouth they remain stationary, and the yoke is moved around the cap-pivot e , and the yoke-hooks, engaging under the bottle-collar, compress the projecting edges of the stopper-plug and form a perfectly air and liquid tight stopper.

If the stopper-plug is made cylindrical, as in Fig. 11, the elastic gaskets r or r' will be compressed between the stopper-cap and the bottle-top, and perform a function nearly analo-

gous, while the stopper-plug, having a cylindrical form, will evenly fit the bottle-neck and prevent any internal liquid from coming in contact with said gasket.

Having now fully described my invention, I claim—

1. In a bottle-stopper, the combination of a stopper-body formed of a cylindrical plug having a projecting collar trunco-conical on the under side, with an embracing-cap having a conical top and a projecting cylindrical pin, e , substantially as and for the purpose described.

2. In a bottle-stopper, a stopper-plug cap formed with a projecting pin, e , a conical top, e^4 , a beveled under edge, and an interior chamber having a screw-thread cut therein, substantially as and for the purpose set forth.

3. The combination of a stopper-retaining yoke with a stopper-plug cap having a projecting spindle, e , a conical or trunco-conical top, and a cylindrical chamber formed with beveled edges with a cylindrical plug or stopper-body and an elastic gasket partly compressed between said stopper-body and the edge of the cap, substantially as and for the purpose described.

4. In a bottle-stopper, the combination of a stopper-plug, a chambered plug-cap having a projecting spindle, e , and a perforated yoke capable of turning independently of the stopper-plug and cap with the neck of a bottle having two semi-spiral collars and indentations in said collars to retain the hooks of the yoke, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS MALCOLMSON.

Witnesses:

LUDWIG MAYER,
MICHAEL ULRICH.